



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,419	07/30/2003	William Randolph Schmidt	MP0974(13036/15)	7838
60537	7590	06/19/2007		EXAMINER
BRINKS HOFER GILSON & LIONE/MARVELL				MCLEAN, NEIL R
P.O. BOX 10395			ART UNIT	PAPER NUMBER
CHICAGO, IL 60610			2625	
				MAIL DATE
				DELIVERY MODE
			06/19/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/630,419	SCHMIDT, WILLIAM RANDOLPH
	<b>Examiner</b>	<b>Art Unit</b>
	Neil R. McLean	2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 30 July 2003.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 21-61 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 21-61 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 07/30/2007 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 07/30/2003; 10/30/2003.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_ .

**DETAILED ACTION**

***Response to Preliminary Amendment***

1. The examiner acknowledges receipt of Applicants Preliminary Amendment dated 4/16/07 in which Claims 1-20 have been canceled and new Claims 21-61 have been added.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 21-37, 40-61, are rejected under 35 U.S.C. 102(e) as being anticipated by Honma (US 7,130,069).

Honma discloses a printer comprising:

Regarding Claim 21:

an interface adapted to receive a print job from a network (Column 4, lines 46-51 and 7 in Figure 1);

a print server formed on a substrate (Column 6, line 64 – Column 7, line 6 and 321 and 323 in Figure 4), to detect the print job and manage a print queue (5 in Figures 1 and 4);

a formatter (8/9 in Figures 1 and 4), formed on the substrate, adapted to perform at least a first formatting function associated with the print job (Column 4, lines 65-67); and

a print engine (See Figure 2) adapted to drive a print mechanism in accordance with the print job.

Regarding Claim 22:

The printer of claim 21 wherein the formatter includes a system input/output (I/O) to receive the print job (320 in Figure 4).

Regarding Claims 23:

The printer of claim 21 wherein the formatter includes a system input/output (I/O) to receive a cancel request from the network. This feature is inherent under the Simple Network Management Protocol (SNMP) and Management Information Base (MIB) in order to facilitate the exchange of management information between network devices.

Regarding Claim 24:

The printer of claim 21 wherein the formatter includes a system input/output (I/O) to provide print job status information to the network. This feature is inherent under the Simple Network Management Protocol (SNMP) and Management Information Base

(MIB) in order to facilitate the exchange of management information between network devices.

Regarding Claim 25:

The printer of claim 21 wherein the print server is adapted to add the print job to the print queue. This feature is inherent under the Simple Network Management Protocol (SNMP) and Management Information Base (MIB) in order to facilitate the exchange of management information between network devices.

Regarding Claim 26:

The printer of claim 21 wherein the print server is adapted to remove the print job from the print queue in response to a cancel request received from the network. This feature is inherent under the Simple Network Management Protocol (SNMP) and Management Information Base (MIB) in order to facilitate the exchange of management information between network devices.

Regarding Claim 27:

The printer of claim 21 wherein the print server is adapted to generate status information regarding the print job. This feature is inherent under the Simple Network Management Protocol (SNMP) and Management Information Base (MIB) in order to facilitate the exchange of management information between network devices.

Regarding Claim 28:

The printer of claim 27 wherein the formatter is adapted to communicate the status information to the network. This feature is inherent under the Simple Network Management Protocol (SNMP) and Management Information Base (MIB) in order to facilitate the exchange of management information between network devices.

Regarding Claim 29:

The printer of claim 21 wherein the formatter is adapted to notify the network if the print job is complete. This feature is inherent under the Simple Network Management Protocol (SNMP) and Management Information Base (MIB) in order to facilitate the exchange of management information between network devices.

Regarding Claim 30:

The printer of claim 21 wherein the formatter is adapted to notify the network if a print error has occurred. This feature is inherent under the Simple Network Management Protocol (SNMP) and Management Information Base (MIB) in order to facilitate the exchange of management information between network devices.

Regarding Claim 31:

The printer of claim 21 wherein the formatter includes a formatter controller adapted to convert the print job from a first format to a second format, and to

communicate the print job to the print engine (Column 7, lines 7-14 and 321 and 323 in Figure 4).

Regarding Claim 32:

The printer of claim 31 wherein the formatter controller is adapted to compress the print job (Column 4, lines 35-37).

Regarding Claim 33:

The printer of claim 31 wherein the formatter controller is adapted to de-compress the print job (Column 4, lines 43-45).

Regarding Claim 34:

The printer of claim 21 wherein the formatter includes a processing system to perform at least a first system processing function associated with the print job (Column 4, lines 65-67).

Regarding Claim 35:

The printer of claim 21 wherein the formatter comprises:  
a system input/output (I/O) configured to receive the print job (320 in Figure 4);  
a formatter controller configured to access the print job from the print queue and convert the print job to a format useable by the print engine (321 and 323 in Figure 4);  
and

a processor adapted to perform a first function associated with the system I/O, a second function associated with the print server, and a third function associated with the formatter controller (321 and 323 in Figure 4).

Regarding Claim 36:

A printer formatter comprising:

a processor to perform at least a first print function associated with a print job (323 in Figure 4);

a system input/output (I/O) associated with the processor to receive an input signal (320 in Figure 4) and provide an output signal (322 in Figure 4);

a formatter controller to perform at least a first formatting function associated with the print job (321 in Figure 4); and

a print server (Core section 10 in Figure 1), in communication with the processor, to manage a print queue (5 in Figures 1 and 4).

Regarding Claim 37:

The printer formatter of claim 36 comprising a substrate having the processor, the system I/O, the formatter controller, and the print server located thereon (See Figures 1, 3 and 4).

Regarding Claim 40:

The printer formatter of claim 36 wherein the system I/O is adapted to receive the print job (See Network Interface 7 in Figures 1 and 4).

Regarding Claim 41:

The printer formatter of claim 36 wherein the formatter controller is adapted to convert the print job from a first format to a second format (See block diagram of image processor in Figure 5).

Regarding Claim 42:

The printer formatter of claim 36 wherein the formatter controller is adapted to compress the print job (Column 4, lines 35-37).

Regarding Claim 43:

The printer formatter of claim 36 wherein the formatter controller is adapted to de-compress the print job (Column 4, lines 43-45).

Regarding Claim 44:

The printer formatter of claim 36 wherein the system I/O is adapted to generate an I/O interrupt in response to receiving the input signal, and the processor is adapted to perform an I/O function in response to receiving the I/O interrupt (Column 7, lines 27-32).

Regarding Claim 45:

The printer formatter of claim 44 wherein the I/O function includes receiving and storing the print job (Column 4, line 65 – Column 5, line 4).

Regarding Claim 46:

The printer formatter of claim 44 wherein the I/O function includes providing an indication to the print server that the print job has been received (Column 7, lines 27-32).

Regarding Claim 47:

The printer formatter of claim 36 wherein the print server is adapted to generate a print server interrupt in response to detecting the print job, and the processor is adapted to perform a print server function in response to receiving the print server interrupt (Column 7, lines 27-32).

Regarding Claim 48:

The printer formatter of claim 36 wherein the processor is adapted to store the print job in the print queue (See File Section 5 in Figures 1 and 4).

Regarding Claim 49:

The printer formatter of claim 36 wherein the processor is adapted to provide a print job status notification. This feature is inherent under the Simple Network Management

Protocol (SNMP) and Management Information Base (MIB) in order to facilitate the exchange of management information between network devices.

Regarding Claim 50:

The printer formatter of claim 36 wherein the processor is adapted to provide a print job complete notification. This feature is inherent under the Simple Network Management Protocol (SNMP) and Management Information Base (MIB) in order to facilitate the exchange of management information between network devices.

Regarding Claim 51:

The printer formatter of claim 36 wherein the processor is adapted to provide a print error notification. This feature is inherent under the Simple Network Management Protocol (SNMP) and Management Information Base (MIB) in order to facilitate the exchange of management information between network devices.

Regarding Claim 52:

The printer formatter of claim 36 wherein the processor is adapted to remove the print job from the print queue in response to a cancel signal. This feature is inherent under the Simple Network Management Protocol (SNMP) and Management Information Base (MIB) in order to facilitate the exchange of management information between network devices.

Regarding Claim 53:

A printer comprising:  
a substrate having a formatter adapted to receive a print job from a network,  
manage a print queue, and format the print job (3 in Figure 1); and  
a print mechanism in communication with the formatter to print an image on a  
print medium (2 in Figure 1).

Regarding Claim 54:

The printer of claim 53 wherein the formatter is comprised of a print server  
adapted to communicate print job status information to the network. This feature is  
inherent under the Simple Network Management Protocol (SNMP) and Management  
Information Base (MIB) in order to facilitate the exchange of management information  
between network devices.

Regarding Claim 55:

The printer of claim 54 wherein communicating print job status information to the  
network includes notifying the network if the print job is complete. This feature is  
inherent under the Simple Network Management Protocol (SNMP) and Management  
Information Base (MIB) in order to facilitate the exchange of management information  
between network devices.

Regarding Claim 56:

The printer of claim 54 wherein communicating print job status information to the network includes notifying the network if a print error has occurred. This feature is inherent under the Simple Network Management Protocol (SNMP) and Management Information Base (MIB) in order to facilitate the exchange of management information between network devices.

Regarding Claim 57:

The printer of claim 53 comprising a formatter controller to convert the print job from a first format to a second format, and communicate the print job in the second format to a print engine (See Control Unit 252 in Figure 5).

Regarding Claim 58:

The printer of claim 53 wherein the formatter is adapted to compress the print job (Column 4, lines 35-37).

Regarding Claim 59:

The printer of claim 53 wherein the formatter is adapted to de-compress the print job (Column 4, lines 43-45).

Regarding Claim 60:

The printer of claim 53 comprising a print server to control print job processing  
(See Image Memory 255 in Figure 5).

Regarding Claim 61:

The printer of claim 53 wherein the formatter comprises a processor to perform input/output (I/O) functions associated with a system I/O (323 in Figure 4), print server functions associated with a print server, and printer formatting functions associated with a formatter controller (321 in Figure 4).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honma in view of Chadez et al. (US 6,522,420).

- (i) Honma discloses all of the subject matter as described in above.
- (ii) Honma does not disclose expressly printer firmware for specifically having a single ASIC perform both the processing and the printing.

- (iii) Chadez et al. discloses a printer and associated controller implemented as an Application Specific Integrated Circuit (ASIC) that is designed to support serial and parallel I/O functionality with the host, compress and decompress the raster data, communicate with the print engine and send the host data to the engine.
- (iii) Honma and Chadez et al. are combinable because they are from the same field of endeavor.
- (iv) At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the Application Specific Integrated Circuit (ASIC) as taught by Chadez et al. into the print processing system disclosed by Honma.
- (v) The suggestion/motivation for doing so would have been to provide customers with the benefits of scalable performance, fast time to market, low system cost, and flexible, system-on-chip platforms that translates into faster time to market and longer time in market for customers. Having a printer that interleaves printing operations with non-printing operations during the printing and non-printing phases of the print cycle takes advantage of the non-printing phase to compress the raster data and other general operations.

Regarding Claim 37:

The printer formatter of claim 36 comprising a substrate having the processor, the system I/O, the formatter controller, and the print server located thereon (See Figure 2).

Regarding Claim 38:

The printer formatter of claim 37 wherein a formatter comprises a single microchip that includes the processor, the system I/O, the formatter controller, and the print server (Column 2, lines 63-65).

Regarding Claim 39:

The printer formatter of claim 38 wherein the microchip is configured to function within a printer (Column 2, lines 45-51).

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Okano (US 5,987,225) discloses a network including printing devices capable of processing both copying jobs and printing jobs, and also relates to a print output control device for performing various controls such as setting an operation mode of each printing device, assigning requested printing jobs to the printing devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neil R. McLean whose telephone number is 571. 270.1679. The examiner can normally be reached on Monday through Friday 7:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Twyler Lamb can be reached on 571-272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*N.R. McLean*  
Neil R. McLean  
05/31/2007

*Twyler Lamb*  
Twyler Lamb  
SUPERVISORY PATENT EXAMINER